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     FILE 'REGISTRY' ENTERED AT 11:06:49 ON 25 FEB 2005
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               STR
L1
L2
               STR L1
L3
               STR L2
            50 L3
L4
L5
           1514 L3 FULL
                DEL KRI409F0/Q
                SAV TEM KRI409F0/A L5
               STR L2
L6
L7
             1 L6
L8
             12 L6 FULL
               SAV TEM L8-KRI409F1/A -
     FILE 'HCAPLUS' ENTERED AT 11:28:18 ON 25 FEB 2005
L9
            234 L5 (L) RACT+NT/RL
             20 L8 (L) RACT+NT/RL
L10
             9 L9 AND L10
L11
     FILE 'REGISTRY' ENTERED AT 11:30:02 ON 25 FEB 2005
               ACT KRI622F0/A
L12
               STR
L13
            447 SEA FILE=REGISTRY SSS FUL L12
               _____
L14
               STR L12
L15
             8 L14
L16
            117 L15 FULL
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L17
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L19
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L21
               STR L19
             2 L21 SAM SUB=L16
L22
L23
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L24
               STR L19
L25
             0 L24 SAM SUB=L13
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             0 L24 FULL SUB=L13
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L27
             7 L23
L28
             8 L18 OR L27
L29
             9 L11 OR L18
             9 L29 OR L28
L30
=> b reg
FILE 'REGISTRY' ENTERED AT 12:50:52 ON 25 FEB 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 FEB 2005 HIGHEST RN 836595-43-8 DICTIONARY FILE UPDATES: 23 FEB 2005 HIGHEST RN 836595-43-8

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at: http://www.cas.org/ONLINE/DBSS/registryss.html

L3

STR

NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES: RING(S) ARE ISOLATED OR EMBEDDED NUMBER OF NODES IS 38

STEREO ATTRIBUTES: NONE

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1514 ANSWERS

SEARCH TIME: 00.00.01

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GRAPH ATTRIBUTES: RING(S) ARE ISOLATED OR EMBEDDED NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

L8

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12 ANSWERS

SEARCH TIME: 00.00.01

=> d que sta 113 L12 STR

17 0.35 Ak-6 36 OH 7 12 Ak 31 C8 13 34 Ak-28 33 Ak—¢ 9 Ċ 14 39 0 þ 10 <sup>15</sup> d1 38 Ak 32 11 16 ď

N @40 Ak 42

Page 1-A

Ak-N-Ak 43 @44 45

Page 2-A VAR G1=40/NH2/41/44 NODE ATTRIBUTES: AT 40 NSPEC IS R DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

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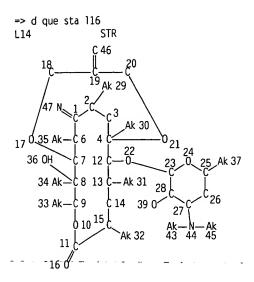
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SEARCH TIME: 00.00.01

447 ANSWERS



NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

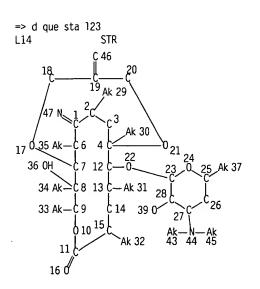
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STEREO ATTRIBUTES: NONE L16 117 SEA FILE=REGISTRY SSS FUL L14

100.0% PROCESSED 128 ITERATIONS

117 ANSWERS

 ${\tt SEARCH\ TIME:\ 00.00.01}$ 



NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS 42
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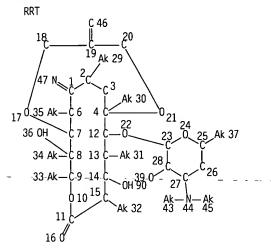
STEREO ATTRIBUTES: NONE

L16

117 SEA FILE=REGISTRY SSS FUL L14

L21

STR



NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE L23 18 SEA FILE

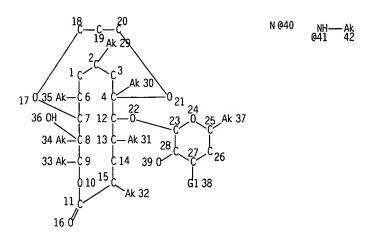
18 SEA FILE=REGISTRY SUB=L16 SSS FUL L21

100.0% PROCESSED 117 ITERATIONS

18 ANSWERS

SEARCH TIME: 00.00.01

=> d que sta 126 L12 ST



Page 1-A

Ak—N—Ak 43 @44 45

Page 2-A
VAR G1=40/NH2/41/44
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NSPEC IS R AT 40
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES: RING(S) ARE ISOLATED OR EMBEDDED NUMBER OF NODES IS 44

STEREO ATTRIBUTES: NONE

L13 447 SEA FILE=REGISTRY SSS FUL L12

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES: RING(S) ARE ISOLATED OR EMBEDDED NUMBER OF NODES IS 46

STEREO ATTRIBUTES: NONE

1 26

O SEA FILE=REGISTRY SUB=L13 SSS FUL L24

100.0% PROCESSED 325 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

=> b hcap FILE 'HCAPLUS' ENTERED AT 12:51:15 ON 25 FEB 2005 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

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FILE COVERS 1907 - 25 Feb 2005 VOL 142 ISS 10 FILE LAST UPDATED: 24 Feb 2005 (20050224/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

## => d all fhitstr 130 tot

L30 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN AN 2005:34589 HCAPLUS DN 142:114362 Entered STN: 14 Jan 2005 Preparation of glycoside bridged macrocyclic compounds as antibacterial agents IN Or, Yat Sun USA U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S. Ser. No. 464,188. CODEN: USXXCO DT Patent English LA ICM C07H017-08 IC ICS A61K031-7048 NCL 514028000; 536007100 33-7 (Carbohydrates) Section cross-reference(s): 1, 10, 63 FAN.CNT 10 PATENT NO. KIND DATE APPLICATION NO. DATE \_\_\_\_\_ --------------

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US 6753318
                                20040622
                                            US 2002-205357
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                                20050217
                                            US 2003-429485
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     US 2005037982
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     US 2004053861
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PATENT NO.
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                        C07H017-08
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                        514028000; 536007100
                NCL
 US 2004023895
                       C07H017/08F
                ECLA
 US 2004053861 ECLA
                       C07H017/08F
GI
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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

The present invention provides a method for preparing bridged macrocyclic glycosides, e.g. I, wherein R is H, acyl, silane, hydroxy protecting group; L and R3 are independently H, aliphatic, alicyclic, aromatic. heteroarom., heterocyclic: one of U or V is H and the other is independently selected from R4, . OR4, OC(0)R4, oxy-amide, S(0)nR4, sugar residue; R4 is H, deuterium, alkyl, alicyclic, aromatic, heterocyclic; U and V. taken together with the carbon atom to which they are attached, are C:O. or UV and R1R2, taken together with the carbon atoms to which they are attached, are -C(R4)CH-; X and Y together with the carbon atom to which they are attached are CO, imine, oxime; X1 is H or halogen; n is 0-2, comprising the step of reacting a macrocyclic compound characterized by having at least two nucleophilic moieties with a bi-functional bridging reagent optionally in the presence of a catalyst, thereby producing a bridged macrocyclic product. Thus, macrolide II was prepared as potential antibacterial agent. This invention also encompasses pharmaceutical compns. containing, and methods of treating bacterial infections through administering, pharmaceutically acceptable prodrugs of compds, produced by the process of the present invention (no data).

ST aminodeoxy glycoside macrocyclic prepn antibacterial

IT Glycosides

RL: SPN (Synthetic preparation); PREP (Preparation)
(amino; preparation of glycoside bridged macrocyclic compds. as antibacterial agents)

IT Macrolides

RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of glycoside bridged macrocyclic compds. as antibacterial agents)

T 110-64-5, 2-Butene-1,4-diol 3513-81-3 **13127-18-9** 76801-85-9 652150-15-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of glycoside bridged macrocyclic compds. as antibacterial agents)

IT 116700-73-3P 134297-05-5P 314050-27-6P 620161-75-3P

625390-08-1P 625390-10-5P 652150-16-8P 652157-58-9P 823802-96-6P

823802-97-7P 823802-99-9P 823803-00-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

IT 620161-76-4P 823802-98-8P 823803-01-6P 823803-03-8P

823803-04-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of glycoside bridged macrocyclic compds. as antibacterial agents)  $\$ 

IT 13127-18-9

RL: RCT (Reactant): RACT (Reactant or reagent):

RACT (Reactant or reagent)

RN 13127-18-9 HCAPLUS

CN Erythromycin, 9-oxime (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

L30 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:890622 HCAPLUS

DN 142:56597

ED Entered STN: 27 Oct 2004

TI Synthesis of Novel 6.11-0-Bridged Bicyclic Ketolides via a Palladium-Catalyzed Bis-allylation

AU Wang, Guoqiang; Niu, Deqiang; Qiu, Yao-Ling; Phan, Ly Tam; Chen, Zhigang; Polemeropoulos, Alexander; Or, Yat Sun

CS Enanta Pharmaceuticals, Inc., Watertown, MA, 02472, USA

SO Organic Letters (2004), 6(24), 4455-4458 CODEN: ORLEF7; ISSN: 1523-7060

PB American Chemical Society

DT Journal

LA English

CC 33-7 (Carbohydrates)

Section cross-reference(s): 10

AB A bridging chemical process was developed to form an ether bridge between 6-0 and 11-0 of erythromycin A via a tandem or stepwise palladium-catalyzed bis-.pi.-allylation. By applying this bridging process, new 6.11-0-bridged bicyclic ketolides (BBKs) were synthesized. These BBKs showed good antibacterial activities against the macrolide-susceptible strains as well as mef-resistant strains and served as a good core for further modifications to study the structure-activity relationship (SAR) and to overcome bacterial resistance.

ST antibacterial structure activity bridged bicyclic ketolide; bridged bicyclic ketolide macrolide antibiotic prepn

IT Macrolides

RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic

Krishnan 10/758409 Page 10

```
preparation): BIOL (Biological study); PREP (Preparation)
        (antibiotics: synthesis of 6.11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0.11-0-dialkylation)
IT
    Structure-activity relationship
        (antimicrobial; synthesis of 6.11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0.11-0-dialkylation)
    Infection
        (bacterial: synthesis of 6.11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0.11-0-dialkylation)
    Alkylation
ΙT
    Allylation
    Antibacterial agents
        (synthesis of 6,11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0,11-0-dialkylation)
    Ketolides
    RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic
     preparation); BIOL (Biological study); PREP (Preparation)
        (synthesis of 6.11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0.11-0-dialkylation)
    628698-70-4P 628702-87-4P
    RL: BSU (Biological_study, unclassified); SPN (Synthetic preparation);
     BIOL (Biological study): PREP (Preparation)
        (antibacterial activity; synthesis of 6,11-0-bridged bicyclic ketolides
        via a palladium-catalyzed bis-allylation or stepwise
        6-0,11-0-dialkylation)
    628698-53-3P
     RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic
     preparation); BIOL (Biological study); PREP (Preparation)
        (crystal structure of: synthesis of 6.11-0-bridged bicyclic ketolides
        via a palladium-catalyzed bis-allylation or stepwise
        6-0,11-0-dialkylation)
    3513-81-3 26776-70-5, 1,3-Dihydroxyacetone dimer 35000-38-5
     111321-02-9
     RL: RCT (Reactant): RACT (Reactant or reagent)
        (synthesis of 6,11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0,11-0-dialkylation)
    116700-78-8P 620161-75-3P 625389-96-0P
     625389-97-1P 625390-05-8P 625390-08-1P
                                               625390-10-5P
                                  625390-16-1P
                   625390-14-9P
                                                 625390-18-3P
                                                                 625390-20-7P
     625390-12-7P
     625390-28-5P 625390-30-9P 628698-52-2P 628698-69-1P
     628702-86-3P 628703-03-7P 808765-28-8P
     808765-29-9P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP
     (Preparation): RACT (Reactant or reagent)
        (synthesis of 6.11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0,11-0-dialkylation)
     625390-04-7P 808765-30-2P
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (synthesis of 6.11-0-bridged bicyclic ketolides via a
        palladium-catalyzed bis-allylation or stepwise 6-0.11-0-dialkylation)
              THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 27
(1) Agouridas, C; J Med Chem 1998, V41, P4080 HCAPLUS
(2) Allen, N; Antimicrob Agents Chemother 1977, V11, P669 HCAPLUS
(3) Amsterdam, D: Antibiotics in Laboratory Medicine, 4th ed 1996, P52
(4) Anon: Methods for Dilution Antimicrobial Susceptibility Tests for Bacterial
    that Grow Aerobically, 5th ed 2000, V20(2)
(5) Anon: Performance Standards for Antimicrobial Susceptibility
    Testing: Eleventh Informational Supplement 2001, V21(1)
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(9) Chu. D; Curr Opin Microbiol 1999, V2. P467 HCAPLUS
(10) Chu. D: Expert Opin Invest Drugs 1995. V4. P65 HCAPLUS
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Krishnan 10/758409

Page 11

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(12) Doern. G: Antimicrob Agents Chemother 2001. V45. P1721 HCAPLUS

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- (15) Huang, Y; Tetrahedron Lett 1988, V29, P5663 HCAPLUS
- (16) Keyes, R; J Med Chem 2003, V46, P1795 HCAPLUS
- (17) Kurath, P; Experimentia 1971, V27, P362 HCAPLUS
- (18) Le Martret, O: 35th Interscience Conference on Antimicrobial Agents and Chemtherapy. Abstract No F157 1995
- (19) Ma, Z; 39th Interscience Conference on Antimicrobial Agents and Chemtherapy. Abstract No F2113 1999
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- (21) Ma, Z; J Med Chem 2001, V44, P4137 HCAPLUS
- (22) Ma. Z: Org Lett 2002, V4, P987 HCAPLUS
- (23) Or, Y; J Med Chem 2000, V43, P1045 HCAPLUS
- (24) Pestka. S: Antimicrob Agents Chemother 1976, V9. P128 HCAPLUS
- (25) Stoner, E: J Org Chem 2003, V68, P8847 HCAPLUS
- (26) Timms, G; Tetrahedron Lett 1971, V12, P195
- (27) Zhanel, G; Drugs 2001, V61, P443 HCAPLUS
- IT 628698-70-4P

RL: RCT (Reactant); RACT (Reactant or reagent); BIOL

(Biological study); RACT (Reactant or reagent)

(antibacterial activity; synthesis of 6.11-0-bridged bicyclic ketolides

via a palladium-catalyzed bis-allylation or stepwise

6-0.11-0-dialkylation)

RN 628698-70-4 HCAPLUS

CN Erythromycin. 3-de[(2.6-dideoxy-3-C-methyl-3-0-methyl-.alpha.-L-ribo-hexopyranosyl)oxy]-6.11-0-(2-methylene-1.3-propanediyl)-3-oxo-, 9-[0-(methoxymethyl)oxime], (9E)- (9CI) (CA INDEX NAME)

- L30 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 2004:722951 HCAPLUS
- DN 141:225773
- ED Entered STN: 03 Sep 2004
- TI Processes for the preparation of 6-11-bicyclic erythromycin derivatives via palladium-catalyzed condensation reaction
- IN Xu. Guoyou; Tang, Datong; Gai, Yonghua; Kim, Heejin; Wang, Guoqiang; Phan. Ly Tam: Or. Yat Sun; Wang, Zhe
- PA USA
- SO U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 436,622. CODEN: USXXCO
- DT Patent
- LA English
- IC ICM C07H017-08
- NCL 536007400
- CC 33-7 (Carbohydrates)

Section cross-reference(s): 1, 63

FAN.CNT 10

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

Page 12

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20040902
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PI US 2004171818
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CLASS
PATENT NO.
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US 2004171818 ICM
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               NCL
US 2004171818 ECLA C07H017/08F
US 2004053861 ECLA C07H017/08F
OS CASREACT 141:225773; MARPAT 141:225773
GI
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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The present invention relates to processes and intermediates for the preparation of 6-11 bicyclic erythromycin derivs. I. wherein R-R2 are independently selected from hydrogen. acyl. silane. aliphatic group. alicyclic group. aromatic group. heteroarom. group. saturated or unsatd. heterocyclic: Q is independently selected from R2, alkoxy. ester. heterocycle: Z is independently selected from R2. alkoxy. ester. amide. oxy-sulfonyl. were prepared I was prepared via palladium-catalyzed condensation of macrolide II with ester III. In particular, the present invention relates to processes and intermediates for the preparation of a macrolide IV.

ST prodrug erythromycin amino glycoside prepn palladium catalyzed condensation macrolide; bicyclic erythromycin amino glycoside prepn palladium catalyzed condensation ester

IT Macrolides

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(glycosides; processes for preparation of bicyclic erythromycin derivs. via palladium catalyzed condensation reaction)

IT Glycosides

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(lactones, macrolides; processes for preparation of bicyclic erythromycin derivs, via palladium catalyzed condensation reaction)

IT Condensation reaction

Condensation reaction catalysts

(processes for preparation of bicyclic erythromycin derivs. via palladium catalyzed condensation reaction)

IT 7440-05-3, Palladium, uses 51364-51-3. Pd2(dba)3

RL: CAT (Catalyst use); USES (Uses)

(processes for preparation of bicyclic erythromycin derivs. via palladium catalyzed condensation reaction)

T 314050-27-6P 321533-62-4P 620161-75-3P

620161-78-6P 628703-61-7P 748796-37-4P 748796-38-5P

748796-39-6P 748796-40-9P

RL: IMF (Industrial manufacture): RCT (Reactant): SPN (Synthetic preparation): PREP (Preparation): RACT (Reactant or reagent)

(processes for preparation of bicyclic erythromycin derivs. via palladium catalyzed condensation reaction)

IT 625390-37-6P 748796-41-0P 748797-36-6P

 $RL:\ IMF$  (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(processes for preparation of bicyclic erythromycin derivs. via palladium catalyzed condensation reaction)

IT 288-13-1, Pyrazole 524-38-9, n-Hydroxyphthalimide 3513-81-3, 2-Methylene-1,3-propanediol 13127-18-9, Erythromycin a oxime 24424-99-5, Di-tert-butyl dicarbonate 73781-91-6, Methyl 6-chloronicotinate

RL: RCT (Reactant); RACT (Reactant or reagent)

(processes for preparation of bicyclic erythromycin derivs. via palladium catalyzed condensation reaction)

IT 7688-25-7, 1,4-Bis(diphenylphosphino)butane

RL: RGT (Reagent); RACT (Reactant or reagent)

IT 314050-27-6P

RL: RCT (Reactant); RACT (Reactant or reagent); SPN

(Synthetic preparation); PREP (Preparation); RACT (Reactant or

reagent)

(processes for preparation of bicyclic erythromycin derivs. via palladium catalyzed condensation reaction)

RN 314050-27-6 HCAPLUS

-CN Erythromycin, 9-(0-acetyloxime), 2',4''-diacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry unknown.

L30 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:652626 HCAPLUS

DN 141:190995

ED Entered STN: 13 Aug 2004

FI Preparation of 6-11-bicyclic erythromycin ketolide derivatives as antibacterial agents

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PA US

SO U.S. Pat. Appl. Publ., 156 pp., Cont.-in-part of U.S. Ser. No. 429,485. CODEN: USXXCO

DT Patent

LA English

IC ICM A61K031-7048 ICS C07H017-08

NCL 514028000: 536007400

CC 33-7 (Carbohydrates)

Section cross-reference(s): 1, 10, 63

FAN.CNT 10

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

PI US 20041577	87	A1	20040812	US 2003-717290	20031119
US 20050379	82	A1	20050217	US 2003-429485	20030505
PRAI US 2002-144558		B2	20020513		
US 2003-429	485	A2	20030505		
CLASS					
PATENT NO.	CLASS	PATENT	FAMILY CLAS	SIFICATION CODES	
US 2004157787	ICM	A61K03	1-7048		
	ICS	C07H01	7-08		
	NCL	514028	000: 5360074	.00	
US 2004157787	ECLA	C07H01	7/08F		
OS MARPAT 141:					
GI					

6-11 Bicyclic erythromycin ketolide derivs. I, wherein A is OH, ORp, where Rp is a hydroxy protecting group, R1, where R1 is aryl, heteroaryl, OR1. R2, where R2 is H. halogen, alkyl, alkenyl, alkynyl, OR2, amine, amide. sulfonyl, sulfonamide; B is H. deuterium, halogen, OH, R1, R2, ORp; A and B together with the carbon atom to which they are attached form  ${\tt CO.}\ {\tt ketal.}$ thicketal, alkylidene, oxime; one of X and Y is H and the other is H, deuterium, OH, ORp, amine; X and Y are together CO, imine; L is Me, Et, CH(OH)Me, alkyl, alkenyl, alkynyl; W is amine; Z is H, Me, halogen; R2'is H. Rp. were prepared as antibacterial agents. Thus, bicyclic erythromycin ketolide I. wherein A and B taken together with the carbon atom to which they are attached are C=CH2. X and Y taken together with the carbon atom to which they are attached are C=N-Ac. L = CH2CH3, Z = H. and R2' = Ac. was prepared and tested in vitro as antibacterial agent. The compds. of the invention demonstrated in vitro antibacterial activity of MIC in the range from about 64 .mu.g/mL to about 0.03 .mu.g/mL. The invention also relates to methods of treating a bacterial infection in a subject by administering a pharmaceutical composition comprising the compds. of the present invention. The present invention further relates to pharmaceutical compns. comprising the aforementioned compds. for administration to a subject in need of antibiotic treatment.

ST human bicyclic erythromycin ketolide macrolide glycoside prepn antibacterial

IT Glycosides

RL: IMF (Industrial manufacture); PAC (Pharmacological activity); SPN (Synthetic preparation): THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(amino: preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT Infection

(bacterial: preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT Antibiotics

(macrolide; preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

[T Antibacterial agents

Human

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(preparation of bicyclic erythromycin ketolide derivs. as antibacterial
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     51364-51-3, Pd2(dba)3
     RL: CAT (Catalyst use); USES (Uses)
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 (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study);
 PREP (Preparation); USES (Uses)
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RL: RCT (Reactant); RACT (Reactant or reagent); SPN
(Synthetic preparation); THU (Therapeutic use); RACT (Reactant or
reagent); PREP (Preparation); USES (Uses)
   (preparation of bicyclic erythromycin ketolide derivs. as antibacterial
   agents)
628698-69-1 HCAPLUS
Erythromycin, 3-de[(2,6-dideoxy-3-C-methyl-3-0-methyl-.alpha.-L-ribo-
hexopyranosyl)oxy]-6,11-0-(2-methylene-1,3-propanediyl)-3-oxo-,
9-[0-(methoxymethyl)oxime], 2'-acetate, (9E)- (9CI) (CA INDEX NAME)
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RN

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L30 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN
AN
    2004:220028 HCAPLUS
DN
    140:236004
    Entered STN: 19 Mar 2004
    Preparation of 6.11-bicyclic erythromycin macrolides as antibacterial
    agents - - -
IN
    Or, Yat Sun; Wang, Guoqiang; Phan, Ly Tam; Niu, Deqiang; Qiu, Yao-Ling;
    Vo. Nha Huu; Farmer, Jay Judson; Hou, Ying
PA
    USA
S0
    U.S. Pat. Appl. Publ., 43 pp., Cont.-in-part of U.S. Ser. No. 144,396.
    abandoned.
    CODEN: USXXCO
DT
    Patent
   English
LA
    ICM A61K031-7048
     ICS A61K031-7052: C07H017-08
NCL 514028000; 536007100; 536017400
CC 33-7 (Carbohydrates)
Section cross-reference(s): 1, 10, 63
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FAN.CNT 10					
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ΡI	US 2004053861	A1	20040318	US 2003-436622	20030513
	US 2004171818	A1	20040902	US 2004-758409	20040114
	US 2005009761	A1	20050113	US 2004-763377	20040123
PRAI	US 2002-144396	B2	20020513		
	US 2002-144558	B2 ·	20020513		
	US 2002-205018	A2	20020725		
	US 2002-205357	A2	20020725		
	US 2003-429485	A2	20030505		
	US 2003-436622	A2	20030513		
	US 2003-464188	A2	20030618	•	

	US 2002-205	357	A2	20020725
US 2003-429485		A2	20030505	
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		ICS	A61K031	31-7052; C07H017-08
		NCL	5140280	3000; 536007100; 536017400
	US 2004053861	ECLA	C07H017	17/08F
	US 2004171818	ECLA	C07H017	17/08F
	OS CASREACT 140	0:23600	4; MARPA	PAT 140:236004
	OT			

6.11-Bicyclic erythromycin macrolides I, wherein A is OH, OR1, R1 is hydroxy protecting group, aryl. heteroaryl, O-aryl, O-heteroaryl, H. halogen, alkyl, alkenyl, alkynyl, sulfonyl, amide, sulfonamide, amine; B is H. deuterium, halogen, OH, aryl, heteroaryl, OR1; A and B together are O, acetal, thioacetal, acyl, alkene, oxime: X and Y are independently H, deuterium, OR1, amine: X and Y together are CO, imine; L is Me. Et. CH(OH)Me. alkyl, alkenyl, alkynyl; W is amine; Z is H. OH, OR1, alkoxy, ester, O-amide, sulfonyl, heterocycle, or pharmaceutically acceptable salts, esters, or prodrugs thereof which exhibit antibacterial properties. The present invention further relates to pharmaceutical compns. comprising the aforementioned compds. for administration to a subject in need of antibiotic treatment. The invention also relates to methods of treating a bacterial infection in a subject by administering a pharmaceutical composition comprising the compds. of the present invention. The invention further includes process by which to make the compds. of the present invention. Title compds. were tested for in vitro antibacterial activity by a micro-dilution method and demonstrated an MIC in the range from about 64 .mu.g/mL to about 0.03 .mu.g/mL. According to the methods of treatment of the present invention, bacterial infections are treated or prevented in a patient such as a human or other animals by administering to the patient a therapeutically effective amount of a compound of the invention, in such amts. and for such time as is necessary to achieve the desired result (no data). Thus. I (A and B together with the carbon atom to which they are attached = C:CH2. X and Y together with the carbon atom to which they are attached = C:NAc, L = Et, W is NMe2, Z = R = H) was prepared and tested as antibacterial agent.

Ι

ST bicyclic erythromycin macrolide prepn antibacterial human prodrug

IT Antibiotics

(aminoglycoside; preparation of bicyclic erythromycin macrolides as antibacterial agents)

IT Infection

(bacterial; preparation of bicyclic erythromycin macrolides as antibacterial agents)

IT Antibiotics

(macrolide: preparation of bicyclic erythromycin macrolides as antibacterial agents)

IT Antibacterial agents

Antibiotics

Human

(preparation of bicyclic erythromycin macrolides as antibacterial agents)

IT Drug delivery systems

(prodrugs; preparation of bicyclic erythromycin macrolides as antibacterial agents)

IT 625390-06-9P 625390-26-3P 625390-39-8P 625390-42-3P

625390-44-5P 625390-48-9P 625390-49-0P

625390-51-4P 625390-52-5P 625390-53-6P

625390-54-7P 625390-55-8P 625390-56-9P

625390-57-0P 625390-58-1P 625390-59-2P

625390-60-5P 625390-61-6P 625390-62-7P

625390-63-8P 625390-64-9P 625390-65-0P

RL: IMF (Industrial manufacture); PAC (Pharmacological activity); SPN

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     PREP (Preparation); USES (Uses)
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
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     625390-43-4P 625390-45-6P 625390-46-7P
     625390-47-8P 625390-50-3P 628703-03-7P
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     preparation); PREP (Preparation); RACT (Reactant or reagent)
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
    103-64-0, .beta.-Bromostyrene 501-81-5, 3-Pyridylacetic acid
     1449-46-3. Benzyl triphenylphosphonium bromide 5332-24-1.
     3-Bromoquinoline 7688-25-7, 1.4-Bis(diphenylphosphino)butane
     13115-43-0, 2-Pyridylacetic acid 26776-70-5, 1,3-Dihydroxyacetone dimer
     111321-02-9 315193-22-7 620161-75-3 625390-10-5
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
    625390-06-9P
     RL: RCT (Reactant); RACT (Reactant or reagent); SPN
     (Synthetic preparation); THU (Therapeutic use); RACT (Reactant or
     reagent): PREP (Preparation); USES (Uses)
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
RN
    625390-06-9 HCAPLUS
     Erythromycin, 3-0-de(2,6-dideoxy-3-C-methyl-3-0-methyl-.alpha.-L-ribo-
     hexopyranosyl)-6.11-0-(2-methylene-1,3-propanediyl)-, 9-[0-
     (methoxymethyl)oxime], (9E)- (9CI) (CA INDEX NAME)
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L30 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN 2004:101000 HCAPLUS AN DN 140:146397 ED Entered STN: 08 Feb 2004 Preparation of 6.11-4-carbon bridged macrolide ketolides erythromycin analogs as antibacterial agents Or, Yat Sun; Wang, Guogiang; Niu, Deqiang; Phan, Ly Tam ΤN Enanta Pharmaceuticals, Inc., USA S0 PCT Int. Appl., 80 pp. CODEN: PIXXD2 DT Patent LA English ICM A61K031-70 IC ICS C07H017-08 33-7 (Carbohydrates) Section cross-reference(s): 1, 63

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              UA. UG. UZ. VC. VN. YU. ZA. ZM. ZW
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              KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
              FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
              BF. BJ. CF. CG. CI. CM. GA. GN. GQ. GW. ML. MR. NE. SN. TD. TG
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PRAI US 2002-205357
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CLASS
 PATENT NO.
                  CLASS PATENT FAMILY CLASSIFICATION CODES
                  ICM - A61K031-70
 WO 2004011009
                  ICS
                         C07H017-08
0S
     CASREACT 140:146397; MARPAT 140:146397
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GΙ

$$Q = \frac{0}{Me} \frac{Me}{0Me} = \frac{0 - C0 - Ph}{0 - C0 - Ph}$$

Novel 6.11-4-carbon bridged erythromycin ketolides I. wherein W is substituted alkylidene, X and Y are independently H. deuterium. OH. alkoxy, amine; XY are together CO, imine, oxime, amide; L is hydroxy-alkyl, alkyl, alkenyl, alkynyl; Z is H, Me, halogen; Rx is hydroxy protecting group; K is H. alkoxy, ester, carbamate, sulfoxide, sugar residue; pharmaceutically-acceptable compns. comprising a therapeutically effective amount of a compound of the invention in combination with a pharmaceutically-acceptable carrier are described. Also described are methods for treating bacterial infections by administering to an animal a pharmaceutical composition containing a therapeutically effective amount of a compound of the invention and processes for the preparation of such compds. Thus, I (W is -CH2CH=CHCH2-, X and Y taken together with the carbon atom they are attached to form C=N-OH, L is Et, Rx = H; K is sugar residue Q) was prepared and tested in vitro as antibacterial agent. The compds. of the invention generally demonstrated an MIC in the range from about 64 .mu.g/mL to about 0.03 .mu.g/mL.

ST human prodrug ketolide macrolide erythromycin analog antibacterial prepn

IT Glycosides

RL: IMF (Industrial manufacture); PAC (Pharmacological activity); SPN

Krishnan 10/758409

Page 22

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(Synthetic preparation); THU (Therapeutic use); BIOL (Biological study);
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       (amino; preparation of carbon bridged macrolide ketolides erythromycin
       analogs as antibacterial agents)
    Antibiotics
       (aminoglycoside; preparation of carbon bridged macrolide ketolides
       erythromycin analogs as antibacterial agents)
IT
    Infection
       (bacterial: preparation of carbon bridged macrolide ketolides erythromycin
       analogs as antibacterial agents)
    Antibacterial agents
    Human
       (preparation of carbon bridged macrolide ketolides erythromycin analogs as
       antibacterial agents)
    Drug delivery systems
ΙT
        (prodrugs; preparation of carbon bridged macrolide ketolides erythromycin
       analogs as antibacterial agents)
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    652150-09-9P 652157-55-6P
                                                 652157-60-3P
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    RL: IMF (Industrial manufacture); PAC (Pharmacological activity); SPN
     (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study);
    PREP (Preparation); USES (Uses)
       (preparation of carbon bridged macrolide ketolides erythromycin analogs as
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    RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic
    preparation); PREP (Preparation); RACT (Reactant or reagent)
        (preparation of carbon bridged macrolide ketolides erythromycin analogs as
       antibacterial agents)
    93-97-0. Benzoic anhydride 4151-27-3. 1.4-Bis(diphenylphosphinyl)butane
     5332-24-1, 3-Bromoquinoline 13127-18-9, Erythromycin A oxime
    314050-27-6 620161-75-3
    RL: RCT (Reactant); RACT (Reactant or reagent)
      (preparation of carbon bridged macrolide ketolides erythromycin analogs as
       antibacterial agents)
             THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 2
(1) Abbott Lab; WO 9921864 A 1999 HCAPLUS
(2) Ma. Z: ORGANIC LETTERS 2002, V4(6), P987 HCAPLUS
   314050-31-2P
    RL: RCT (Reactant); RACT (Reactant or reagent); SPN
     (Synthetic preparation); PREP (Preparation); RACT (Reactant or
        (preparation of carbon bridged macrolide ketolides erythromycin analogs as
       antibacterial agents)
    314050-31-2 HCAPLUS
    Erythromycin, 9-(0-benzoyloxime), 2',4''-dibenzoate (9CI) (CA INDEX NAME)
Absolute stereochemistry.
Double bond geometry unknown.
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L30 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN _ _
ΑN
    2003:931379 HCAPLUS
DN
    140:16927
    Entered STN: 28 Nov 2003
ED
    Preparation of 6-11 bicyclic erythromycin ketolide derivatives as
ΤI
     antibacterial agents
    Or, Yat Sun; Wang, Guoqiang; Phan, Ly Tam; Niu, Deqiang; Vo, Nha Huu; Qiu.
     Yao-ling; Wang, Yanchun; Busuyek, Marina; Hou, Ying; Peng, Yulin; Kim,
     Heejin: Liu, Tongzhu; Farmer, Jay Judson; Xu, Guoyou
     Enanta Pharmaceuticals, Inc., USA
PA
S0
    PCT Int. Appl.. 249 pp.
     CODEN: PIXXD2
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    Patent
LA
    English
IC
     ICM C07H017-08
     ICS A61K031-7048; A61P031-04
     33-7 (Carbohydrates)
     Section cross-reference(s): 1, 10, 63
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             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA. UG. UZ. VC. VN. YU. ZA. ZM. ZW
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CLASS
                 CLASS PATENT FAMILY CLASSIFICATION CODES
 PATENT NO.
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 WO 2003097659
                ICM
                        C07H017-08
                        A61K031-7048; A61P031-04
                 ICS
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OS MARPAT 140:16927

GI

AB 6-11 Bicyclic erythromycin ketolide derivs. I, wherein A is OH, ORp. where Rp is a hydroxy protecting group. R1, where R1 is aryl, heteroaryl, OR1. R2, where R2 is H, halogen, alkyl, alkenyl, alkynyl, OR2, amine, amide. sulfonyl, sulfonamide; B is H, deuterium, halogen, OH, R1, R2, ORp; A and B together with the carbon atom to which they are attached form CO, ketal. thicketal, alkylidene, oxime; one of X and Y is H and the other is H. deuterium, OH, ORp, amine; X and Y are together CO, imine; L is Me, Et. CH(OH)Me, alkyl, alkenyl, alkynyl; W is amine; Z is H, Me, halogen; R2' is H. Rp. were prepared as antibacterial agents. Thus, bicyclic erythromycin ketolide I. wherein A and B taken together with the carbon atom to which they are attached are C=CH2, X and Y taken together with the carbon atom to which they are attached are C=N-Ac. L = CHCH3, Z = H, and R2' = Ac. was prepared and tested in vitro as antibacterial agent. The compds. of the invention demonstrated in vitro antibacterial activity of MIC in the range from about 64 .mu.g/mL to about 0.03 .mu.g/mL. The invention also relates to methods of treating a bacterial infection in a subject by administering a pharmaceutical composition comprising the compds. of the present invention. The present invention further relates to pharmaceutical compns. comprising the aforementioned compds. for administration to a subject in need of antibiotic treatment.

ST human bicyclic erythromycin ketolide macrolide glycoside prepn antibacterial

Ι

IT Glycosides

RL: IMF (Industrial manufacture); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(amino: preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT Antibiotics

(aminoglycoside: preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT Infection

(bacterial; preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT Antibiotics

(macrolide; preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT Antibacterial agents

Antibiotics

Human

(preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT 14221-01-3. Tetrakis(triphenylphosphine)palladium 31210-36-3
51364-51-3. Pd2(dba)3

RL: CAT (Catalyst use): USES (Uses)

(preparation of bicyclic erythromycin ketolide derivs. as antibacterial agents)

IT 628698-55-5P 628698-56-6P 628698-59-9P 628698-60-2P 628698-61-3P

Page 25

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628698-66-8P
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IT

Krishnan 10/758409

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IT 116700-73-3P 123784-07-6P 620161-75-3P 625389-96-0P
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IT 62-53-3, Aniline, reactions 64-04-0, Phenethylamine 80-17-1 92-66-0 100-39-0 100-46-9, Benzylamine, reactions 101-55-3 103-64-0,
     .beta.-Bromostyrene 105-36-2 504-29-0, 2-Pyridinamine 524-38-9. 
N-Hydroxyphthalimide 590-17-0 591-50-4, Iodobenzene 613-94-5
     622-30-0. Benzylhydroxylamine 622-33-3 932-87-6 1034-49-7
     1449-46-3 1589-82-8, Benzylmagnesium bromide 1730-25-2, Allylmagnesium
     bromide 1782-39-4 1944-96-3 2038-57-5. Benzenepropanamine
     2113-57-7 2567-29-5 3277-89-2. Phenethylmagnesium bromide 3319-99-1 3360-54-1 3513-81-3 4616-54-0 4732-11-0 4846-21-3 4916-55-6 4930-98-7 5332-24-1 7688-25-7 13214-66-9. Benzenebutanamine
     14704-31-5 15256-11-8 18462-35-6 26146-77-0 26776-70-5.
     1,3-Dihydroxyacetone dimer 27570-08-7 30777-95-8 30777-96-9
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        agents)
    87742-13-0
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        (preparation of bicyclic erythromycin ketolide derivs. as antibacterial
        agents)
             THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 1
(1) Chu. D: US 5866549 A 1999 HCAPLUS
    628698-69-1P
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        (preparation of bicyclic erythromycin ketolide derivs. as antibacterial
        agents)
     628698-69-1 HCAPLUS
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     Erythromycin, 3-de[(2,6-dideoxy-3-C-methyl-3-0-methyl-.alpha.-L-ribo-
     hexopyranosyl)oxy]-6.11-0-(2-methylene-1.3-propanediyl)-3-oxo-.
     9-[0-(methoxymethyl)oxime], 2'-acetate, (9E)- (9CI) (CA INDEX NAME)
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RE

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L30 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN
     2003:913173 HCAPLUS
AN
DN
    139:396138
ED
     Entered STN: 21 Nov 2003
     Preparation of 6.11-bicyclic erythromycin macrolides as antibacterial
     Or, Yat Sun; Wang, Guoqiang; Phan, Ly Tam; Niu, Deqiang; Qui, Yao-Ling;
IN
     Vo. Nha Huu: Farmer, Jay Judson; Hou, Ying
PA
     Enanta Pharmaceuticals, Inc., USA
     PCT Int. Appl., 99 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
     ICM C07H017-00
IC
     ICS A61K031-00
     33-7 (Carbohydrates)
     Section cross-reference(s): 1, 10, 63
FAN.CNT 10
    PATENT NO.
                        KIND DATE APPLICATION NO.
                                 20031120
                                             WO 2003-US14914
                                                                     20030513
     WO 2003095466
                          A1
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN.
             CO. CR. CU. CZ. DE. DK. DM. DZ. EC. EE, ES, FI. GB. GD. GE. GH.
             GM. HR. HU. ID. IL. IN. IS. JP. KE. KG. KP. KR. KZ. LC. LK. LR.
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ.
             UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR.
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2002-144396
                          Α
                                 20020513
CLASS
 PATENT NO.
                 CLASS PATENT FAMILY CLASSIFICATION CODES
 WO 2003095466
                 ICM
                        C07H017-00
                        A61K031-00
                 ICS
     CASREACT 139:396138; MARPAT 139:396138
0$
GΙ
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AB 6.11-Bicyclic erythromycin macrolides I. wherein A is OH, OR1, R1 is hydroxy protecting group. aryl, heteroaryl, 0-aryl, 0-heteroaryl, H, halogen, alkyl, alkenyl, alkynyl, sulfonyl, amide, sulfonamide, amine; B is H, deuterium, halogen, OH, aryl, heteroaryl, OR1; A and B together are O, acetal, thioacetal, acyl, alkene, oxime; X and Y are independently H, deuterium, OR1, amine; X and Y together are CO, imine; L is Me, Et, CH(OH)Me, alkyl, alkenyl, alkynyl; W is amine; Z is H, OH, OR1, alkoxy,

Ι

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ester. O-amide. sulfonyl. heterocycle. or pharmaceutically acceptable
    salts, esters, or prodrugs thereof which exhibit antibacterial properties.
    The present invention further relates to pharmaceutical compns. comprising
    the aforementioned compds. for administration to a subject in need of
    antibiotic treatment. The invention also relates to methods of treating a
    bacterial infection in a subject by administering a pharmaceutical composition
    comprising the compds. of the present invention. The invention further
    includes process by which to make the compds. of the present invention.
    Title compds. were tested for in vitro antibacterial activity by a
    micro-dilution method and demonstrated an MIC in the range from about 64
     .mu.g/mL to about 0.03 .mu.g/mL. According to the methods of treatment of
    the present invention, bacterial infections are treated or prevented in a
    patient such as a human or other animals by administering to the patient a
    therapeutically effective amount of a compound of the invention, in such amts.
    and for such time as is necessary to achieve the desired result (no data).
    Thus, I (A and B together with the carbon atom to which they are attached
    = C:CH2, X and Y together with the carbon atom to which they are attached
    = C:NAc, L = Et, W is NMe2, Z = R = H) was prepared and tested as
    antibacterial agent.
    bicyclic erythromycin macrolide prepn antibacterial human prodrug
IT = Antibiotics = _
        (aminoglycoside; preparation of bicyclic erythromycin macrolides as
       antibacterial agents)
    Infection
        (bacterial: preparation of bicyclic erythromycin macrolides as antibacterial
       agents)
    Antibiotics
        (macrolide; preparation of bicyclic erythromycin macrolides as antibacterial
        agents)
    Antibacterial agents
     Antibiotics
    Human
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
    Drug delivery systems
        (prodrugs; preparation of bicyclic erythromycin macrolides as antibacterial
        agents)
    625390-06-9P 625390-26-3P 625390-39-8P 625390-42-3P
     625390-44-5P 625390-48-9P 625390-49-0P
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     625390-63-8P 625390-64-9P 625390-65-0P
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     (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study);
     PREP (Preparation): USES (Uses)
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
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     625390-47-8P 625390-50-3P 628703-03-7P
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     preparation): PREP (Preparation): RACT (Reactant or reagent)
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
   103-64-0, .beta.-Bromostyrene 501-81-5, 3-Pyridylacetic acid
     1449-46-3. Benzyl triphenylphosphonium bromide 5332-24-1.
     3-Bromoguinoline 7688-25-7, 1.4-Bis(diphenylphosphino)butane
     13115-43-0, 2-Pyridylacetic acid 26776-70-5, 1.3-Dihydroxyacetone dimer
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ΙT

IT

ΙT

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111321-02-9 315193-22-7 620161-75-3 625390-10-5
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        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
             THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Abbott Lab: WO 9921864 A 1999 HCAPLUS
(2) LI, L: US 6046171 A 2000 HCAPLUS
    625390-06-9P
    RL: RCT (Reactant); RACT (Reactant or reagent); SPN
     (Synthetic preparation); THU (Therapeutic use); RACT (Reactant or
     reagent); PREP (Preparation); USES (Uses)
        (preparation of bicyclic erythromycin macrolides as antibacterial agents)
RN
     625390-06-9 HCAPLUS
     Erythromycin, 3-0-de(2.6-dideoxy-3-C-methyl-3-0-methyl-.alpha.-L-ribo-
CN
     hexopyranosyl)-6,11-0-(2-methylene-1,3-propanediyl)-. 9-[0-
     (methoxymethyl)oxime], (9E)- (9CI) (CA INDEX NAME)
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L30 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN
AN
    2003:887676 HCAPLUS
    139:365174
    Entered STN: 13 Nov 2003
    Preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivatives as
     antibacterial agents
    Wang, Guogiang: Or, Yat Sun; Phan, Ly Tam; Busuyek, Marina
IN
    Enanta Pharmaceuticals, Inc., USA
PΑ
    U.S., 29 pp.
S0
    CODEN: USXXAM
DT
    Patent
LA
    English
    ICM A61K031-70
     ICS C07H001-00; C07H017-08
    514029000: 536007400: 536018500
     33-7 (Carbohydrates)
     Section cross-reference(s): 1, 10, 63
FAN.CNT 1
                                           APPLICATION NO.
                                                                  DATE
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     PATENT NO.
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                                                                  20030326
                               20031111
                                           US 2003-397923
ΡĪ
    US 6645941
                         B1
                                           WO 2004-US8940
                                                                  20040324
     WO 2004087728
                         Α2
                               20041014
                         АЗ
                               20041216
     WO 2004087728
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC.
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO. NZ. OM. PG. PH. PL. PT. RO. RU. SC. SD. SE. SG. SK. SL. SY.
            TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

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SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN.
             TD. TG
PRAI US 2003-397923
                                20030326
CLASS
                 CLASS PATENT FAMILY CLASSIFICATION CODES
 PATENT NO.
 US 6645941
                        A61K031-70
                 TCM
                        C07H001-00; C07H017-08
                 ICS
                        514029000; 536007400; 536018500
                 NCL
WO 2004087728
                 ECLA
                        C07H017/08F
     CASREACT 139:365174; MARPAT 139:365174
GI
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Ι

6.11-3C-bicyclic 9a-azalide erythromycin derivs. I were prepared, wherein A is OH, alkoxy, aryl, heteroaryl, H, halogen, alkyl, alkynyl, alkenyl, sulfonyl, amide, amine, sulfonamide; B is H, deuterium, halogen, OH, aryl, heteroaryl, CO, ester, thioester, oxime, imine; L is Me, Et, CH(OH)Me. alkyl, alkynyl, alkenyl,; D is substituted amine; X is H; Y is H. OH. alkoxy, ester, amide, sulfonyl; X and Y together are oxo; Z is H, Me, halogen; R2 is H, hydroxy protecting group, which exhibit antibacterial properties. The present invention further relates to pharmaceutical compns. comprising the aforementioned compds. for administration to a subject in need of antibiotic treatment. The invention also relates to methods of treating a bacterial infection in a subject by administering a pharmaceutical composition comprising the compds. of the present invention. Thus, I (AB = :CH2, D = NHMe, X = Z = H, Y = OH, L = Et, R2 = Ac) was prepared and tested in vitro as antibacterial agent (MIC =  $0.03 \, .mu.g/mL$ ). The total daily dose of the compds. of this invention administered to a human or other animal in single or in divided doses can be in amts., for example, from 0.01 to 50 mg/kg body weight or more usually from 0.1 to 25 mg/kg body weight The compds. of the invention generally demonstrated an MIC in the range from about 64 .mu.g/mL to about 0.03 .mu.g/mL.

ST macrolide glycoside erythromycin prepn antibacterial human prodrug

IT Antibiotics

(aminoglycoside: preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivs. as antibacterial agents)

IT Infection

(bacterial; preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivs. as antibacterial agents)

IT Antibiotics

(macrolide: preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivs. as antibacterial agents)

IT Antibacterial agents

Antibiotics

Human

(preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivs. as antibacterial agents)

IT Drug delivery systems

(prodrugs: preparation of 6,11-3c-bicyclic 9a-azalide erythromycin derivs. as antibacterial agents)

IT 620161-83-3P 620161-84-4P 620161-87-7P 620161-89-9P 620161-90-2P

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620161-93-5P
                                                620161-94-6P
                                                               620161-95-7P
    620161-91-3P
                   620161-92-4P
                   620161-97-9P
                                 620161-98-0P
                                                620161-99-1P
                                                               620162-00-7P
    620161-96-8P
    620162-01-8P
                   620162-02-9P
                                 620162-03-0P
                                                620162-04-1P
                                                               620162-05-2P
                                 620162-08-5P
                                                620162-09-6P
                   620162-07-4P
    620162-06-3P
    RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
       (preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivs. as
       antibacterial agents)
    3513-81-3, 2-Methylene-1,3-propanediol 13127-18-9
    RL: RCT (Reactant); RACT (Reactant or reagent)
       (preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivs. as
       antibacterial agents)
    314050-27-6P 620161-75-3P 620161-76-4P
    620161-78-6P
                  620161-79-7P 620161-80-0P
                                                620161-81-1P
                   620161-85-5P 620161-86-6P 620161-88-8P
    620161-82-2P
    RL: RCT (Reactant); SPN (Synthetic preparation); PREP
    (Preparation); RACT (Reactant or reagent)
       (preparation of 6.11-3c-bicyclic 9a-azalide erythromycin derivs. as
       antibacterial agents)
RE.CNT 14 THERE ARE 14-CITED REFERENCES AVAILABLE FOR THIS RECORD
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RE

- (1) Agouridas: US 5444051 A 1995 HCAPLUS (2) Agouridas: US 5527780 A 1996 HCAPLUS
- (3) Anon: WO 0114397 2001 HCAPLUS (4) Anon: WO 03042228 2003 HCAPLUS
- (5) Asaka: US 5631355 A 1997 HCAPLUS
- (6) Bonnet: US 5969161 A 1999 HCAPLUS
- (7) Bright: The Journal Of Antibiotics 1988, VXLI(8), P1029
- (8) Hlasta: US 6399582 B1 2002 HCAPLUS (9) Kashimura: US 5403923 A 1995 HCAPLUS (10) Morimoto: US 4990602 A 1991 HCAPLUS
- (11) Or; US 5866549 A 1999 HCAPLUS
- (12) Or: US 6046171 A 2000 HCAPLUS (13) Phan: US 6124269 A 2000 HCAPLUS
- (14) Yang: US 5686587 A 1997 HCAPLUS

IT 13127-18-9

RL: RCT (Reactant); RACT (Reactant or reagent);

RACT (Reactant or reagent)

(preparation of 6,11-3c-bicyclic 9a-azalide erythromycin derivs. as antibacterial agents)

13127-18-9 HCAPLUS

Erythromycin, 9-oxime (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry unknown.

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